Reasoning and Problem Solving – Make Equal Groups – Grouping

National Curriculum Objectives:

Mathematics Year 1: (1N1b) Count in multiples of twos, fives and tens
Mathematics Year 1: (1C8) Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Use two out of three number cards to fill in the gaps in two statements and find the number that is being thought of. Total of no more than 20.
Expected Use two out of four number cards to fill in the gaps in two statements and find the number that is being thought of. Total of no more than 30.
Greater Depth Use two out of four number cards to fill in the gaps in two statements and find the possible numbers that are being thought of. Total of no more than 30.

Questions 2, 5 and 8 (Problem Solving)
Developing Use part of an array and a statement about equal groups to find the total number of items. Total of no more than 20.
Expected Use part of an array and a statement about equal groups to find the total possible number of items. Total of no more than 30.
Greater Depth Use part of a group of objects that are not arranged in rows and columns and a statement about equal groups to find the total possible number of items. Total of no more than 30.

Questions 3, 6 and 9 (Reasoning)
Developing Spot the mistake made when grouping items into equal groups of 2, 5 or 10. Items in an array. Total of no more than 20.
Expected Decide whether items can be grouped equally in 2s, 5s or 10s when there may be some left over. Items in an array. Total of no more than 30.
Greater Depth Decide whether items can be grouped equally in 2s, 5s or 10s when there will be some left over or not enough. Items not arranged in rows and columns. Total of no more than 30.

Reasoning and Problem Solving – Make Equal Groups – Grouping

1a. Jason is thinking of a number.
He can describe his number using two number cards.

4	2

My number can make _____ equal groups of 10 or _____ equal groups of 5.

What number is he thinking of?

D

1 PS

1b. Chiara is thinking of a number.
She can describe her number using two number cards.

1	5

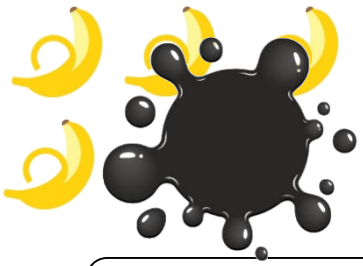
My number can make _____ equal groups of 2 or _____ equal group of 10.

What number is she thinking of?

D

1 PS

2a. Senai has fewer than 10 bananas.
Some are hidden by the splat.



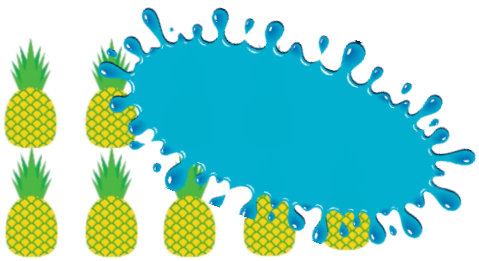
I can make equal groups of 2.

How many bananas could she have?

D

1 PS

2b. Arthur has fewer than 15 pineapples. Some are hidden by the splat.



I can make equal groups of 5.

How many pineapples could he have?

D

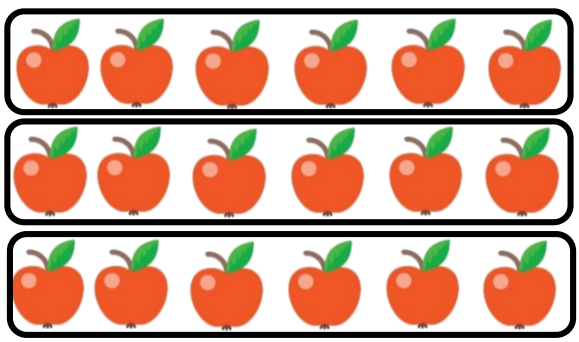
1 PS

3a. Mary has grouped 6 children into equal groups of 2. What mistake has she made?

D

1 R

3b. Francis has grouped 18 apples into equal groups of 5. What mistake has he made?



D

1 R

Reasoning and Problem Solving – Make Equal Groups – Grouping

4a. Sarah is thinking of a number.
She can describe her number using two number cards.

3	4	10

My number can make _____ equal groups of 2 or _____ equal groups of 5.

What number is she thinking of?

E

1 PS

4b. Mohammed is thinking of a number. He can describe his number using two number cards.

1	5	10

My number can make _____ equal groups of 2 or _____ equal group of 10.

What number is he thinking of?

E

1 PS

5a. Xiomara has fewer than 25 buttons.
Some are hidden by the splat.

I can make equal groups of 5.

How many buttons could she have?

E

1 PS

5b. Hogarth has fewer than 15 leaves.
Some are hidden by the splat.

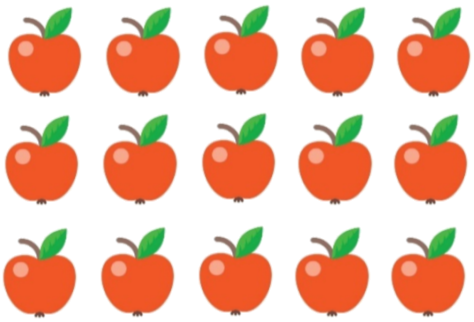
I can make equal groups of 2.

How many leaves could he have?

E

1 PS

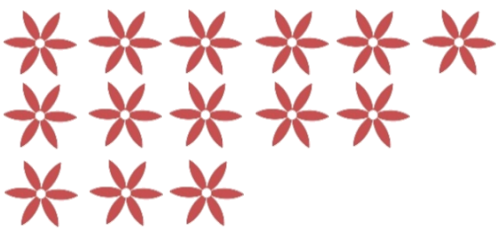
6a. Charlie is grouping some apples.
He wants to make 7 equal groups of 2.
Does he have enough apples?



E

1 R

6b. Frankie is grouping some flowers.
She wants to make 3 equal groups of 5.
Does he have enough flowers?



E

1 R

Reasoning and Problem Solving – Make Equal Groups – Grouping

7a. Esosa is thinking of a number.
She can describe her number using two number cards.

2	3	4	6

My number can make _____ equal groups of 10 or _____ equal groups of 5.
What number could she be thinking of?
Is there more than one answer?

GD

1 PS

7b. Humza is thinking of a number.
He can describe his number using two number cards.

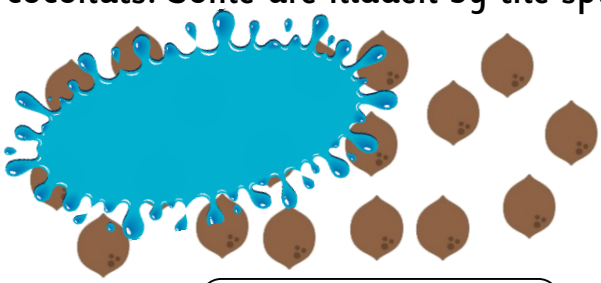
1	3	5	15

My number can make _____ equal groups of 2 or _____ equal groups of 10.
What number is he thinking of?
Is there more than one answer?

GD

1 PS

8a. Kristian has fewer than 40 coconuts. Some are hidden by the splat.



I can make equal groups of 10.

How many coconuts could he have?

GD

1 PS

8b. Michelle has fewer than 30 toys.
Some are hidden by the splat.

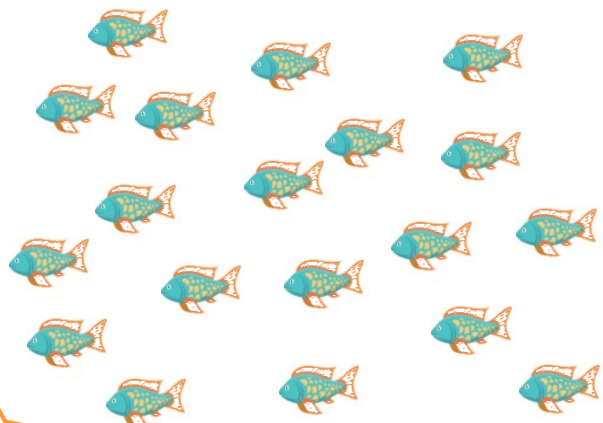
I can make equal groups of 5.

How many toys could she have?

GD

1 PS

9a. Rachelle is grouping some fish.
She wants to make 4 equal groups of 5.
Does she have enough fish?



GD

1 R

9b. Zack is grouping some leaves.
She wants to make 2 equal groups of 10. Does he have enough leaves?

GD

1 R

Reasoning and Problem Solving – Make Equal Groups – Grouping

Developing

1a. Jason is thinking of the number 20 because 20 can make 2 equal groups of 10 and 4 equal groups of 5.
1b. Chiara is thinking of the number 10 because 10 can make 5 equal groups of 2 and 1 equal group of 10.
2a. Senai could have 6 or 8 bananas.
2b. Arthur could have 10 pineapples.
3a. Mary has put the children into 2 groups not into groups of 2. She has made 2 equal groups of 3.
3b. Frances has put 6 apples in each group not 5. He has made 3 equal groups of 6.

Expected

4a. Sarah is thinking of the number 20 because 20 can make 10 equal groups of 2 and 4 equal groups of 5.
4b. Mohammed is thinking of the number 10 because 10 can make 5 equal groups of 2 and 1 equal group of 10.
5a. Xiomara could have 15 or 20 buttons.
5b. Hogarth could have 10, 12 or 14 leaves.
6a. Yes he will have enough to make 7 groups of 2 and there will be 1 apple left over.
6b. No she will not have enough. She could make 2 equal groups of 5 and there would be 4 leftover.

Greater Depth

7a. Esosa could be thinking of the number 20 because 20 can make 2 equal groups of 10 and 4 equal groups of 5. She could also be thinking of the number 30 because 30 can make 3 equal groups of 10 and 6 equal groups of 5.
7b. Humza could be thinking of the number 10 because 10 can make 5 equal groups of 2 and 1 equal group of 10. He could also be thinking of the number 30 because 30 can make 15 equal groups of 2 and 3 equal groups of 10.
8a. Kristian could have 20 or 30 coconuts.
8b. Michelle could have 15, 20 or 25 toys.
9a. No she will not have enough. She could make 3 equal groups of 5 and there would be 4 leftover.
9b. Yes he will have enough to make 2 groups of 10 and there will be 4 leaves left over.